

*Emory
Wolfe*



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

26 JUL 1982



MEMORANDUM

SUBJECT: Action Memorandum to Undertake Remedial Planning and Implementation Work at Reilly Tar and Chemical Co.

FROM: *for* Michael A. Brown, Acting Enforcement Counsel
Office of Legal and Enforcement Counsel (EN-329) *G. A. Kurent*

TO: William N. Hedeman, Jr., Director
Office of Emergency and Remedial Response (WH-548)

The Action Memorandum from your office has been reviewed by my staff.

I concur



I do not concur

I concur with the attached conditions

Date

Comments:



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Authorization to Undertake Remedial Planning and Implementation
Work at Reilly Tar and Chemical Co. -- ACTION MEMORANDUM

FROM: William N. Hedeman, Jr., Director
Office of Emergency and Remedial Response (WH-548)

TO: Rita M. Lavelle, Assistant Administrator
for Solid Waste and Emergency Response (WH-562-A)

BACKGROUND

The Reilly Tar and Chemical site was designated as Minnesota's highest priority site and ranked on the Interim Priority List. The site is an eighty acre parcel located in St. Louis Park, Minnesota. EPA has determined that a release of a hazardous substance has occurred at the Reilly Tar site. From 1917 to 1972, the company operated a coal tar distillation and wood preserving plant and disposed of the wastes on portions of the site. The wastes include Polynuclear Aromatic Hydrocarbons (PAH), some of which are carcinogenic, and phenols. Throughout the site the soils are heavily contaminated. The primary areas of soil contamination are the southern portion of the Reilly Tar property and a wetland which received process wastes through a network of ditches. Documentation indicates that one well (well 23) was used to dispose of creosote wastes. In 1932, the first St. Louis Park well was constructed and, after a few weeks of operation, the well was closed due to complaints of odors that were later identified as phenols.

In 1974, the City of St. Louis Park contracted with a consulting engineer to investigate the hydrology of the area and analyze pathways for the movement of the contaminants. The engineer concluded from the investigation that wells open to several aquifers provided a significant route for contaminant spread. As a result of the study, the Minnesota Department of Health (MDH) plugged or reconstructed over 24 wells in the vicinity of the site.

In the spring of 1975, the Minnesota Pollution Control Agency (MPCA) contracted with an engineering firm to assess the extent and magnitude of the contamination. The study concluded that the soil and shallow unconsolidated sandy aquifers are seriously contaminated and will act as a source of contamination to the deeper bedrock aquifers that are used as drinking water sources. The report recommended use of a ground water pumping system to prevent migration of the contaminated plume to other areas, removal of heavily contaminated soils, and development of more information on the hydrology of the area.

In May of 1978, the MDH detected PAH in four St. Louis Park wells. These wells, located approximately 1/2 mile north of the site, were subsequently closed in 1978. The next well closure occurred in December of 1979. This well is located 1-1/2 miles southeast of the site. Recently, another St. Louis Park municipal well was closed as a result of increasing levels of PAH compounds. This well is located 1/2 mile west of the Reilly Tar site. To date, six municipal wells have been closed in St. Louis Park. It is suspected that the closure of one municipal well in the City of Hopkins, an adjacent town, was due to contamination from Reilly Tar.

All of the closed municipal wells draw from a water bearing rock layer between 250 and 510 feet below the land surface. To date, the contamination of this aquifer has been limited to areas below St. Louis Park. Contamination in the aquifer could spread to municipal wells in Hopkins and another nearby city, Edina, and to commercial and industrial wells in Minneapolis. St. Louis Park has a population of approximately 45,000. A total population of about 100,000 people use ground water for drinking in the immediate vicinity around St. Louis Park. Prior to 1978, the regular users of ground water near the Reilly Tar site consumed enough water to pull the contaminated ground water towards those wells. However, when those wells closed in 1978, ground water was no longer pulled towards those wells and, as a result, was free to spread in other directions and towards more distant wells. This was demonstrated by the later appearance of contaminants at other St. Louis Park wells.

Between 1978 and 1981, the State contracted with the U.S. Geological Survey (USGS) and an engineering firm to define more precisely the ground water flow and organic contaminant movement in the bedrock underlying St. Louis Park and to provide the data necessary for a gradient control network and a soil removal program. The final report was completed on November 30, 1981. As a result of the study, it was determined that more data were needed to properly evaluate and conceptually design a gradient control system and soil removal program. The funding for these State studies and part of the USGS investigations was obtained from State legislative appropriation, matching USGS funds and EPA Region V Enforcement Division funds.

In the summer of 1981, the MPCA signed a Cooperative Agreement with EPA for a total of \$400,000 of RCRA funds to undertake three tasks. Under Task 1, the State is preparing plans and specifications for reconstructing contaminated on-site wells. Under Task 2, the State is identifying and surveying off-site wells for possible plugging or reconstruction. The State contractor has begun Tasks 1 and 2 and will complete the tasks late this summer. Under Task 3, the State is evaluating the treatability of ground water. This will be completed in January 1983.

EPA has also funded a \$60,000 environmental assessment project that complements ongoing State studies. This work is being done by the EPA zone contractor.

OVERALL SITE REMEDIAL STRATEGY

EPA and the State have identified four discrete activities (operable units) necessary to remedy the hazards at the Reilly Tar site. Delineated as follows is the overall work EPA currently expects will be necessary for Reilly Tar. With this request, we are recommending funding for Operable Units 1, 2, and 3 only.

Operable Unit 1 - Initial Remedial -- Well Abandonment Program

EPA has agreed with the MPCA and MDH that improperly constructed and deteriorating wells provide the primary route for migration of contamination to drinking water aquifers. To prevent more contaminants from moving into the ground water, the route for migration must be eliminated. Identification of wells is currently underway under an existing RCRA cooperative agreement. Subsequent work under this operable unit will be to complete this survey, to identify and plan for abandonment and to implement the abandonment of wells.

Operable Unit 2 - Off-Site Remedial -- Ground Water Remedy

It is well documented that contaminants in ground water are migrating off-site and that, as wells are shut down, the contaminants are drawn to operating wells. As a result, the contaminants are migrating in new directions and spreading into previously uncontaminated areas. A gradient control system using existing wells to intercept/impede the flow of contaminants is one feasible approach to prevent this migration. Evaluation of options for dealing with the high volumes of contaminated water pumped from the wells is the key unresolved problem associated with this approach. A study to evaluate the alternatives for dealing with the pumped water is underway. Once a cost-effective solution to dealing with this high volume of water is determined and alternatives to the gradient control system are evaluated, design and implementation of the appropriate option will be proposed.

Operable Unit 3 - Source Contamination Study

Currently, the primary reservoir of contamination is found in the creosote contaminated soils and sediments that remain on or near the Reilly Tar site. Total rectification of the areawide contamination at Reilly Tar must address this source of contamination. Follow-up investigatory studies on this area will define the extent and magnitude of contamination and evaluate alternatives for removing soils and/or treating soils by a range of various techniques. Upon completion of this work, the State intends to request funds to prepare plans and specifications for removing/treating the soils and later implement the soils remedy.

Operable Unit 4 - Drinking Water Supplies

The City of St. Louis Park has lost a substantial source of public water supplies due to contamination and faces the possibility of shortages of water this summer. The City is currently developing a plan for providing alternative water supplies. The State and City may request funds from EPA, at a later date, to supply these water sources.

ENFORCEMENT STATUS (Confidential)

On June 1, 1973, Reilly Tar sold the site to the City of St. Louis Park. The City, in turn, agreed to hold Reilly Tar harmless from any actions brought by the MPCA against Reilly Tar relative to the site. That same month, the City conveyed the property by quit claim to the St. Louis Park Housing and Redevelopment Authority.

In September 1980, EPA filed suit against Reilly Tar under section 7003 of RCRA. Superfund counts were added in September 1981. In October 1980, the State and City joined EPA as plaintiff. Reilly Tar, in response to the suit, requested that the court dismiss the case on the grounds that the court lacked jurisdiction over the case. Oral arguments on the motion to dismiss were made on January 15, 1982. A ruling on the motion is expected soon.

On February 25, 1981, EPA sent a demand letter to Reilly Tar affording them the opportunity to undertake planning/investigation actions. The company declined stating that EPA's request was not yet permitted because the NCP had not been promulgated. The company subsequently declined EPA's second Superfund demand letter of August 17, 1981, requesting reimbursement for \$200,000 obligated into the remedial project. The company also rejected the MPCA's letter of March 20, 1981, notifying them of the State's claim against Reilly Tar for previous expenditures.

If the court decides it does have jurisdiction over the case, EPA believes it will ultimately win. In that event, any legal action will be drawn out. EPA believes that Reilly Tar will not settle prior to the court's ruling on the motion to dismiss. If the court decides that it does have jurisdiction to hear the case, Reilly Tar might initiate efforts to settle.

PROPOSED PROJECT

We propose to proceed on three of the four operable units. The first project would be to implement, as an initial remedial measure, the reconstruction of wells both on and off-site and survey additional wells for possible abandonment. As previously identified, municipal drinking water supplies have been shut down in the area. This measure would aid in preventing further closures. Some of these wells have already been identified by the MDH. Other wells are being identified by the MPCA in part by using funds provided for in Task 2 of the existing RCRA cooperative agreement, "Survey of Off-Site Wells". In order not to hold up the project, we are requesting funds to begin abandonment of wells, beginning with those that are already known. Overall, the State and EPA estimate that a total of no more than 45 wells will have to be abandoned. Depending upon the use, condition and depth of the well, plans and specifications will be prepared for reconstruction and/or plugging. This approach is consistent with the factors delineated in the proposed NCP section 300.67(e), especially section 300.67(e)(3). Some of the wells to be abandoned are located on industry property and used by individual industries as their source of process water. As part of the total well abandonment effort, the initial remedial measure must involve replacement of this industry's existing water supply. It has not yet been determined what is the most cost-effective means to replace these closed down process wells. Therefore, the State will be requesting funds to undertake a feasibility study that will recommend the most cost-effective means for replacing this water.

We propose, secondly, to test and fine tune the gradient control concept by use of newly developed ground water models. This task will establish the feasibility of a gradient control system and maximize the effectiveness of this system should this approach be selected.

We propose, thirdly, to proceed with operable unit three to undertake a source control study to determine the extent of contamination, investigate the relationship between the soils and underlying ground water contamination, and identify and evaluate soil remedial alternatives. The State's contractor will use as a basis for this study all available soils data. The study will produce information valuable to the operation of the gradient control well system and remedial alternatives for soil treatment/removal.

- o Operable Unit 1 - Initial Remedial Measure--Well Abandonment Program
(begin October 1)
 - Well survey \$ 30,000.
 - Well abandonment \$1,200,000.
 - Feasibility Study for Replacement
of Process Water \$ 70,000.
 - o Operable Unit 2 - Off-site ground water remedy \$ 50,000.
(begin November 1)
 - o Operable Unit 3 - Source Contamination Study \$ 625,000.
(begin November 15)
- Total \$1,975,000.

The State has requested to take the lead for this project under a cooperative agreement. EPA has negotiated this project with the State and has worked with the State frequently on other hazardous waste site projects and believes the state is capable of carrying out this work. We will determine the State's cost-share at the time we sign the cooperative agreement.

RECOMMENDATION

I recommend that you approve the proposed initial remedial measure for well abandonment and authorize us to proceed with additional studies for operable units 2 and 3. OERR will allocate \$1.975 million to plan for and implement the abandonment of wells and undertake a remedial investigation/feasibility study of the soils.

I am available to discuss this request in more detail at your convenience.

Approve _____

Disapprove _____

Date _____